Mr. John Grantham State of Washington Department of Ecology Nuclear & Mixed Waste Program P. O. Box 47600 Olympia, WA 98504-7600

FLUOR DANIEL. INC

November 7, 1994 Date:

Reference: Hanford Waste Vitrification Plant

DOE Contract DE-AC06-86RL10838

Fluor Contract 8457

Transmittal No.: WDOE-988

Dear Mr. Grantham:

TRANSMITTAL

We enclosed 2 copy of the items listed below. These are issued per US-DOE request.

[] Approval [] Reference [] Review and Comment [X] DCN-RFC

Response due to Fluor: N/A

Responds to: A160 PACKAGE

NUMBER	REV	DATE	TITLE
DCN - 0198	0	10/26/94	REVISION OF OPERATING REQUIREMENTS FOR THE FIREWATER PUMPS PX-500-002A/B
			•
			,
			/
			"RELEASED FOR CONSTRUCTION"
			"

Reference: FRP-1486, FUP-901

Distribution:

R. L. Long - DOE-RL, w/O

TWP/AME Corresp Cntrl Cntr MSIN A5-10

(A160 PACKAGE), w/O
P. Felise - WHC-RL (MSIN G6-06), w/1 Environmental Data Management Center

(MSIN H6-08), w/1

D. Duncan - US EPA, Region X, w/O

M. D. Talbot, WHC - w/0

Very truly yours,

Project Director

RSP:DGL:fps

			·					
FLUOR DANIEL	/11141114911401							
US DEPARTMENT OF ENERGY	DCN - 0198	REV	0	PAGE 1 OF 3				
HANFORD WASTE VITRIFICATION PLANT	DCN TITLE			DATE INITIATED				
DESIGN CHANGE NOTICE	Revision of operating			22 Aug 94 PACKAGE NO.				
	requirements for the							
	Firewater Pumps PX- 500-002A/B			A160				
SECTION 1: DESCRIPTION OF CHANGE	1 000 002.							
	This DCN revises the operating requirements for the Firewater Pumps PX-500- CAUSE OF CHANGE:							
002A/B. Previous requirments are and remain vali accomodate the reduced horsepower rating of the			1.	RIVGE: Field Change Request				
flow. Please note that the requirements of NFPA 20 Para	agraph 3-2 as well as 6-5.2	ylaas		Supplier Disposition				
to the pump and motor. In addition to other submace Test procedures as required by Paragra	nittal requirements Factory			Deficiency Report Design Development				
Section B-595-C-A160-15540 shall be provided for				Change Request TBD/Hold				
requirements. Design calculations as outlined in Paragraph 1.6.2	2.1 of Specification Section	B-		Other				
595-C-A160-15540 shall be provided for review.	595-C-A160-15540 shall be provided for review.							
			ייט	N T3-030				
SECTION 2: EVALUATION								
li e e e e e e e e e e e e e e e e e e e		VIEWER C						
WAPA DWG/SPEC?								
SAFETY CLASS 1 OR 2 DWG/SPEC? NO YES	SASTEMS N.	o C+mv	nent	Balana a Thete				
MULTI-DISCIPLINE CHANGE?		Comme		72 7.5.9				
DCN Evaluated by: Systems (Autoback V) SECTION 3: APPROVED FOR CONSTRUCTION	15/94 ADINY Amer N. Come	مالاللك س	<u> </u>	115/9(L.				
Double S. So Bounts 23AU69	A MINA	Told		9/15/94				
Originator Osiginator	Date Project/Resident I	Enginee	1	Date				
SECTION 4: CONCURRENCE	SECTION 5: RELEASE	D FOR	CON	STRUCTION				
Project Management Da	PE STAMP REQUIRED?	? 🗹 N	0 🗆	YES				
		+	`	10/22/05				
Systems Da	11 17 /		<u>, </u>	Date				
Independent Safety Da	ate UCAT			(0-1894				
				10/21/91				
Quality Assurance Da				Date				
Frances Stokes 10-6-95 Configuration Management Da	<u>/-</u>							
	nte							
COMMENTS:								
Q								

		A 1 300 3	<u> </u>		
FLUOR DANIEL	7513336.	THE'S	DISCIPLINE	PKG. NO.	PAGE
US DEPARTMENT OF ENERGY	DCN -0198	0	Mech	A160	2
HANFORD WASTE VITRIFICATION PLANT	PREPARED BY:			Date:	
DESIGN CHANGE NOTICE	Sunk. Ce	nu	anin	a 9/14	las

SECTION 6: CONSTRUCTION DOCUMENTS/AFFECTED **DOCUMENT** SHT/ **REV** INCLD NUMBER <u>PAGE</u> <u>NO</u> **DOCUMENT NAME** Y/N **DESCRIPTION OF CHANGE** B-595-C-A160-DS-2 1 Firewater System Pumps **Revised Operating Conditions** 15540, Attachment A

SECTION 7: NON-CONSTRUCTION DOCUMENTS AFFECTED

This section references affected items such as P&IDs or calculations/analyses, but they are generally not included in DCN package.

DOCUMENT SHT/ REV
NUMBER PAGE NO DOCUMENT NAME DESCRIPTION OF CHANGE

H-2-123358 2 9 P&ID System 50: Fire and Revised Pump Operating Conditions

Process Water Storage

U. S. Department of Energy					ATTACHN	IENT ACTIVITY	4				
U. S. Department of Energy	T ELLOR DANIEL		BY /UIJJUL			ارج اربا جدابا					
U. S. Department of Energy						 					
Harriford Waste Vitification Plant Harriford Waste Vitification Plant Hichland, Washington DOE Contract Di-ACOS-BGRL10838 CENTRIFUGAL PUMPS DOE Contract Di-ACOS-BGRL10838 DOE CONTRACT					 		<u>.</u>	12-03-91	845734		
Halmord Water Windcatton Hant Richland, Washington DoE Contract DE-ACO8-8GR_10838 CENTRIFUGAL PUMPS Differential Pressure (PSiG); Do-Acos Differential Pressure (PSiG); Do-Acos Discharge Pumps Differential Pressure (PSiG); Do-Acos Discharge Disc			•						 ,		
DOE Contract DE-ACO6+86R1.10838			Plant								
CENTRIFUGAL PUMPS		-		_							
ALL TEMS SHALL COMPLY WITH GENERAL SPECIFICATION SHEETS:				8				FOR CLIENT	USE		
Service FIRE WATER PUMPS	CENTH	IIFUGAL PU	MPS		 						
Sanice FIRE WATER PUMPS No. Motor Driven 2								<i>M</i> (?D		
Pump Tag No. Pump	ALL ITEMS SHALL COI	MPLY WITH GENER.	AL SPECIFI	CATION	SHEETS:	A:	160-15540				
Pump Mir. FIRE WATER PUMPS FIRE WATER WATER FIRE WATER WATER FIRE WATER WAT	Service FIRE	WATER PUMPS	<u>s</u>	No. M	otor Driven	2	No. Pumps Req.		2		
Part				Pump	Tag No.		No. Turbine Drive	n			
Size & Type	Pump Mfr.			PX-500-002 B			— Pump Tag No.				
No. Stage	Size & Type				PINE WATE	K PUMFS					
Serial No.	No. Stages			Motor	Tag No.	-SAME		_			
Name: WATER					_	MANUFACTURE	•				
Name: WATER		IOUID				ONDITIONS					
Normal	<u> </u>										
Normal 60 Mac. 700 Min. 6 Specific Gravity: 60 9F = 1.00 Specific Gravity: 60 9F = 1.00 Specific Gravity: 60 9F = 1.00 Succion Priseure (PSIG): 10-3 Succion Priseure (PSIG): 10-3 Outdoor		- (05)-	f	•	•	n	<u>-</u>				
Specific Gravity: @ 60			_						- Win		
Vapor Press. (PSIA):			- 1								
Vacceity (CP);					•		1 1				
Differential Head (Feet): 2.3.9 Reharks: Differential Head (Feet): 3.2. Reharks: S. 5.5 Reharks: Perporal Curve No.: S. 5.5 PERFORMANCE (To Biognopleted By Manufacturer) Proposal Curve No.: Minimum Continuous Flow (GPM): NPSH Required (Feet Water): Speed (RPM): Thermal Stable 3% Head Drop Stotion Specified Speed: Suction Specified Spe	·						<u> </u>		O Sun		
NPSH Available (Feet): 32	· -					_	_				
PERFORMANCE To B Completed By Manufacturer	Corresion/Erosion C	aused By: NONE	<u> </u>		a.			 	-() 		
PERFORMANCE (To Ba Completed By Manufacturer) Proposal Curve No.:							— Recharks:		. 014		
Proposal Curve No.:	Remarks:			Hydra	ulic Rower (HP):	90.5					
Speed (RPM);			PEI	RFORM	ANCE (To Be Cor	ppleted By Manu	action)				
Efficiency (%): Max. Head Rated Imp. (Feet): Suction Specified Speed: Rated Power (BHP): Max. Power Rated Imp. (BHP): CONSTRUCTION (To Be Completed By Purchaser and Manufacturer) NOZZLES SIZE RATING FACING LOCATION MISC. CONNECTIONS SIZE TYPE Suction 8" 125 F. F. Drain Vent 1/2" Casing Mount: 2" 125 F. F. Vent 1/2" Casing Mount: 2" 125 F. F. Vent 1/2" Casing Mount: 2" Pressure Gage Vent 1/2" Casing Mount: 2" Axial Inline Rated Max. Min. Warm Up Warm Up Warm Up Warm Up Warm Up Belance Line Packing: Warm Up Belance Line Packing: Warm Up War	Proposal Curve No.:			Minim	um Continuous Flo	w (GPM):	NPSH Required (F	eet Water):			
Nozzles	Speed (RPM):			The	ermai	Stable	3% Heed Drop	,			
CONSTRUCTION (To Be Cempleted By Purchaser and Manufacturer)	Efficiency (%):		 -	Max.	Head Rated Imp. (F	eet):	Suction Specified	Speed:			
NOZZLES SIZE RATING FACING LOCATION Suction 8° 125 F.F. Discharge 6° 125 F.F. Cesing Mount: ☐ Foot ☐ Bracket Impeller Diameter (Inches) Pressure Gage Centerline ☐ Near Cntrl. ☐ Inline Rated ☐ Max. ☐ Min. ☐ Warm Up Casing Split: ☐ Axial ☐ Radial impeller Type: ☐ Open ☐ Closed Casing Type: ☐ Diffuser ☐ Staggered Imp. Suction: ☐ Single ☐ Double Packing: ☐ Single Volute ☐ Double Volute Imp. Mount: ☐ Btwn. Brgs ☐ Overhung Manufacturer Max. Allowable Pressure (PSiG): Rotation (Coupling End): ☐ CW ☐ CCW ☐ Type At 60° F ☐ Bearing (Type/Number): Size/No. Rings At Norm. Pump Temp. ☐ Radial Mechanical Seal: Hydro Test Pressure (PSiG): ☐ Thrust ☐ API 614 Coupling: ☐ Manufacturer ☐ Mechanical Seal: Hydro Test Pressure (Psig Oil ☐ Oil Mist Manufacturer ☐ Model ☐ Menufacturer ☐ Model ☐ Finger ☐ Pressure ☐ Type/Model ☐ Mir. ☐ Driver Mffr. ☐ Purchaser ☐ Gland Type/Mat'l.: ☐ Gland Plate Tape Required for:	Rated Power (BHP):			Max.	Power Rated Imp. (BHP):					
NOZZLES SIZE RATING FACING LOCATION Suction 8° 125 F.F. Discharge 6° 125 F.F. Cesing Mount: ☐ Foot ☐ Bracket Impeller Diameter (Inches) Pressure Gage Centerline ☐ Near Cntrl. ☐ Inline Rated ☐ Max. ☐ Min. ☐ Warm Up Casing Split: ☐ Axial ☐ Radial impeller Type: ☐ Open ☐ Closed Balence Line Packing: ☐ Single Volute ☐ Double Volute Imp. Mount: ☐ Btwn. Brgs ☐ Overhung Max. Allowable Pressure (PSiG): Rotation (Coupling End): ☐ CW ☐ CW At 60° F ☐ Bearing (Type/Number): Size/No. Rings At Norm. Pump Temp. ☐ Radial Mechanical Seal: Hydro Test Pressure (PSiG): ☐ Thust ☐ API 614 Coupling: ☐ Marufacturer ☐ Model ☐ Finger ☐ Pressure Type/Model ☐ Mir. ○ Driver Mfr. ○ Purchaser ☐ Gland Type/Mat'l.: ☐ Gland Plate Tape Required for:			ONSTRU	CTION	iTo Be Complete	i By Purchaser an	d Manufactured				
Suction 8" 125					1	1	1				
Discharge 6" 125 F.F. Vent 1/2" Casing Mount: Sector				IG	1	LOCATION		5 SIZE	TYPE		
Cesing Mount:			125		F.F.				<u></u>		
Centerline Near Cntrl. Inline Rated Max. Min. Balance Line Salagered Impeller Type: Open Closed Balance Line Salagered Imp. Suction: Single Double Packing: Single Volute					F.F.			1/2*			
Casing Split: Axial Radial Impeller Type: Open Closed Balance Line Casing Type: Diffuser Staggered Imp. Suction: Single Double Packing: Single Volute Double Volute Imp. Mount: Btwn. Brgs Overhung Manufacturer	•			Impelle	r Diameter (Inches)	· · · · · · · · · · · · · · · · · · ·				
Casing Type: Diffuser Staggered Imp. Suction: Single Double Packing: Single Volute Double Volute Imp. Mount: Btwn. Brgs Overhung Manufacturer	Centerline 🔲 l	Near Cntrl. 🔲 Inli	ne	Rate	ndMax	Min	Warm Up		<u> </u>		
Single Volute	Casing Split: 🔼 🗸	Axial 🔲 Ra	dial	impelle	r Type: □Open	Closed	Balance Line				
Max. Allowable Pressure (PSiG): At 60 °F Bearing (Type/Number): Size/No. Rings Mechanical Seal: Hydro Test Pressure (PSiG): Lubrication Type: API 614 Coupling: Menufacturer Menufacturer Model Flood Flinger Pressure Pressure Pressure API Class Code X Menufacturer Menufacturer Model Type/Model Driver Half-Coupling Mounted By: Cartridge Type/Required Sland Type/Mat'l.: Gland Plate Taps Required for:	Casing Type: 🔲 [Diffuser 🔲 Sta	aggered	Imp. Si	uction: 🔲 Single	☑ Double	Packing:				
At 60 °F Bearing (Type/Number): Size/No. Rings At Norm. Pump Temp. Radial Mechanical Seal: Hydro Test Pressure (PSiG): Thrust API Class Code X Lubrication Type: API 614 Coupling: Manufacturer Size/No. Rings API Class Code X Mechanical Seal: API Class Code X Menufacturer Model Flood Flinger Pressure Type/Model Mfr. Code Remarks: Driver Half-Coupling Mounted By: Cartridge Type Required Size/No. Rings Mechanical Seal: API Class Code X Menufacturer Model Coupling: Model Flood Flinger Pressure Type/Model Size/No. Rings API Class Code X Coupling: Menufacturer Model Gland Flinger Type Required Size/No. Rings	Single Volute	☐ Double V	olute	Imp. M	ount: 🔲 Btwn. 1	Brgs 🔀 Overhung	Menufacturer				
At Norm. Pump Temp. Radial Mechanical Seal: Hydro Test Pressure (PSiG): Thrust API Class Code X Lubrication Type: API 614 Coupling: Manufacturer Model Greece Ring Oil Oil Miet Manufacturer Model Flinger Pressure Type/Model Mfr. Code Remarks: Driver Half-Coupling Mounted By: Cartridge Type Required Ø Pump Mfr. O Driver Mfr. Purchaser Gland Plate Taps Required for:	Max. Allowable Pres	sure (PSiG):		Rotatio	n (Coupling End):	□cw □ccw	Туре				
Hydro Test Pressure (PSiG): Lubrication Type: API 614 Coupling: Manufacturer Model Flinger Flood Flinger Pressure Type/Model Driver Half-Coupling Mounted By: Pump Mfr. O Driver Mfr. O Purchaser Gland Type/Mat'l.: Gland Plate Taps Required for:	At 60 °F			Bearing	(Type/Number):		Size/No. Rings				
Hydro Test Pressure (PSiG): Thrust API Class Code X Lubrication Type: API 614 Coupling: Manufacturer Signature Remarks: Type/Model Mfr. Code Pressure Type/Model Mfr. Code Pump Mfr. O Driver Mfr. O Purchaser Gland Plate Taps Required for:	At Norm, Pump	Тетр.		Rac	liał		Mechanical Seal:				
☑ Greece ☐ Ring Oil ☐ Oil Miet Menufacturer	Hydro Test Pressure	 (PSIG):					API Class Code		<u> </u>		
☑ Greece ☐ Ring Oil ☐ Oil Miet Manufacturer Model ☐ Flood ☐ Flinger ☐ Pressure Type/Model Mfr. Code Remarks: ☐ Driver Half-Coupling Mounted By: ☐ Cartridge Type Required Ø Pump Mfr. ☐ Driver Mfr. ☐ Purchaser Gland Type/Mat*I.: Gland Plate Taps Required for:	Lubrication Type:	□ API	614	Coupli	ng:		Manufacturer				
Remarks: Driver Half-Coupling Mounted By: Cartridge Type Required	🖾 Greese 🗆	Ring Oil Oil	Miet	Ma	nufacturer		Model				
Remarks: Driver Half-Coupling Mounted By:	☐ Flood ☐	Flinger 🗌 Pro	368Uf9	Tyr	e/Model		Mfr. Code	¥			
Ø Pump Mfr. O Driver Mfr. O Purchaser Gland Type/Mat/I.: Gland Plate Taps Required for:	Remarks:			Driver I	Half-Coupling Mou	nted By:	O Certridae	Type Requir	ed		
Gland Plate Taps Required for:					- -	-	· · · · · · · · · · · · · · · · · · ·	• •			
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